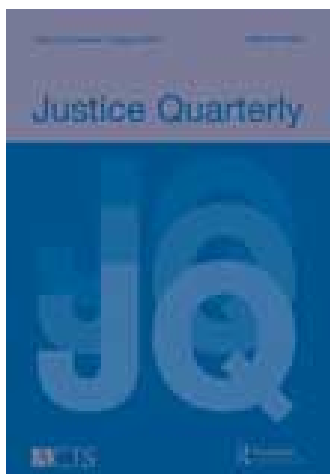


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The Effects of Hot Spots Policing on Crime: An Updated Systematic Review and Meta-Analysis

Anthony A. Braga, Andrew V. Papachristos and David M. Hureau

In recent years, crime scholars and practitioners have pointed to the potential benefits of focusing police crime prevention efforts on crime places. Research suggests that there is significant clustering of crime in small places or “hot spots.” A number of researchers have argued that crime problems can be reduced more efficiently if police officers focused their attention to these deviant places. In this article, we update and improve upon a previously completed Campbell Collaboration systematic review of the effects of hot spots policing and crime. Meta-analyses were used to determine the size, direction, and statistical significance of the overall impact of hot spots policing strategies on crime. The results of our research suggests that hot spots policing generates small but noteworthy crime reductions, and these crime control benefits diffuse into areas immediately surrounding targeted crime hot spots. Our analyses find that problem-oriented policing interventions generate larger mean effect sizes when compared to interventions that simply increase levels of traditional police actions in crime hot spots. We also find

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that only a small number of studies examine the impacts of hot spots policing on police-community relations. The extant research on this topic, however, suggests that community members have positive reactions to these focused policing actions.

Keywords police; crime hot spots; hot spots policing; meta-analysis; systematic review

Introduction

Over the past 25 years, research suggests that crime is not evenly distributed across urban areas; rather it is concentrated in very small places, or “hot spots,” which generate half of all criminal events (Pierce, Spaar, & Briggs, 1988; Sherman, Gartin, & Buerger, 1989; Weisburd, Maher, & Sherman, 1992). A number of researchers have argued that many crime problems can be reduced more efficiently if police officers focused their attention to these deviant places (Braga & Weisburd, 2010; Eck, 2002; Weisburd, 2008). The appeal of focusing limited resources on a small number of high-activity crime places is straightforward. If we can prevent crime at these hot spots, then we might be able to reduce total crime. Hot spots policing strategies are currently used by a majority of US police departments to reduce crime (Police Executive Research Forum, 2008; Weisburd, Mastrofski, McNally, Greenspan, & Willis, 2003).

In a recent article, Durlauf and Nagin (2011) suggest that crime and incarceration in the USA would both be reduced if resources were shifted from imprisonment to policing. Among other focused police interventions, they specifically point to evaluations of hot spots policing deployment strategies as evidence that the police, when properly oriented, can prevent crime. Other scholars are less convinced of the crime prevention value of hot spots policing. For instance, Byrne (2008) urged a close review of the hot spots policing evaluation evidence suggesting that effectiveness conclusions were drawn based on the findings of only five randomized experiments that produced mixed crime reduction results. Rosenbaum (2006) and Tonry (2011) raise concerns that any crime control benefits generated by hot spots policing programs could be offset by overly aggressive and indiscriminate police enforcement efforts at hot spots that can result in negative consequences for police-community relationships and undue burdens on minority citizens. Given the growing popularity of hot spots policing programs and some conflicting scholarly views on the crime reduction value associated with the approach, ongoing systematic review of rigorous program evaluations is necessary to keep policy and practice debates rooted in the most up-to-date and comprehensive scientific evidence.

This article presents the findings of an updated Campbell Collaboration systematic review of the effects of hot spots policing on crime, offering several noteworthy advantages when compared to its predecessor (Braga, 2001, 2005).

Overall, we find that hot spots policing programs generate statistically significant crime prevention gains and are more likely to be associated with the diffusion of crime control benefits into surrounding areas rather than crime displacement effects. Our analyses also suggested that problem-oriented policing interventions generated larger crime reduction effects in crime hot spots relative to interventions comprised of increased levels of traditional policing tactics. We also find that very few hot spots policing evaluations measure the impacts of these programs on community members. However, in contrast to the concerns articulated above, the available studies report positive community perceptions of hot spots policing programs.

Background

Unlike most policing innovations based on increasing operational and management efficiency, the emergence of hot spots policing can be traced directly to emerging theoretical perspectives in criminology that suggest the importance of places in understanding crime (Braga & Weisburd, 2010; Weisburd & Braga, 2006). The consideration of such place-oriented strategies in crime control policy arose from research suggesting that micro-level variation in crime existed within communities. The observation that the distribution of crime varied within neighborhoods has existed for some time (see Hawley, 1944, 1950; Shaw & McKay, 1942; Weisburd, Bernasco, & Bruinsma, 2009). However, until the 1980s, little research examined this variance beyond the community level of analysis. With the advent of powerful computer systems and software packages, several studies revealed that over half of all crimes in a city are committed at a few criminogenic places within communities (Pierce et al., 1988; Sherman et al., 1989). Further, research by Taylor and Gottfredson (1986) suggests that conclusive evidence links this variation to physical and social characteristics of particular blocks and multiple dwellings within a neighborhood.

The study of places as a means to explain the variation of crime within communities has developed from an interest in improving crime control policies (Weisburd et al., 1992). Places in this context are very small units of analysis such as: buildings or addresses; block faces or street segments; or clusters of addresses, block faces, or street segments (Weisburd et al., 2009). The underlying dynamics, situations, and attributes of a place are viewed as key factors in explaining clusters of criminal events (Braga, 2008; Eck & Weisburd, 1995). This approach to focusing on the characteristics of high-crime locations is considered to be a radical departure from traditional criminological theories, which centered prevention efforts on the individual or the larger worlds of communities and neighborhoods and ignored the importance of place (Sherman et al., 1989; Weisburd, 2008).

These emerging theoretical paradigms and empirical findings led Sherman and Weisburd (1995) to explore the practical implications of the hot spots

approach for policing. With cooperation from the Minneapolis Police Department, they developed a large experimental field study of "police patrol in crime hot spots." They sought to challenge the conclusions of the well-known Kansas City Preventive Patrol Experiment (Kelling, Pate, Dickman, & Brown, 1974) that varying levels of police patrol has little value in preventing or controlling crime. But they also sought to show that the focus of police efforts on crime hot spots presented a new and promising approach for police practice. The results of the study were impressive and challenged the Kansas City experiment's assertion that varying levels of patrol do not affect crime. Overall reported crime in the treatment areas was reduced by 13% and robbery was reduced by 20% (Sherman & Weisburd, 1995).

The encouraging results of the Minneapolis Hot Spots Patrol Experiment generated considerable academic and practical interest in hot spots policing that led to a series of rigorous evaluations of the effects of focused police attention in street-level drug markets (Weisburd & Green, 1995), gun violence hot spots (Sherman & Rogan, 1995a), and violent crime hot spots (Braga et al., 1999). In their review of the available scientific evidence, the Committee on Police Strategies and Practices of the US National Research Council concluded that "... studies that focused police resources on crime hot spots provide the strongest collective evidence of police effectiveness that is now available" (Skogan & Frydl, 2004, p. 250).

Police did not blindly follow this growing body of scientific research; rather, they were ready for it (Braga & Weisburd, 2010). Police officers have long recognized the importance of place in crime problems (see e.g. Bittner, 1970). Indeed, the 1976 Police Foundation study, "Three Approaches to Criminal Apprehension in Kansas City," documents strong police interest in rudimentary forms of hot spots policing (termed "location-oriented patrol") and a willingness to collaborate with social scientists to determine more effective crime control approaches (Pate, Bowers, & Park, 1976). Recent police interest in hot spots policing can also be seen as a part of a larger set of changes and innovations that have occurred in policing over the last three decades (Weisburd & Braga, 2006).

As a result of well-publicized research findings on hot spots and police efforts to control them, and a strong desire by police managers to adopt proven crime prevention practices, hot spots policing has become a very popular way for police departments to address crime problems. A recent Police Foundation report found that 7 in 10 departments with more than 100 sworn officers reported using crime mapping to identify crime hot spots (Weisburd et al., 2003). Many police departments reported having the capability to manage and analyze crime data in sophisticated ways and, through management innovations such as Compstat, hold officers accountable for implementing problem-solving strategies to control hot spot locations (Weisburd et al., 2003). The Police Executive Research Forum (2008) surveyed 192 US police departments and reported that nearly 9 out of 10 agencies

used hot spots policing strategies to deal with violent crime in their jurisdictions.

The widespread use of hot spots policing to prevent crime warrants ongoing careful reviews of the available empirical evidence on the crime control benefits of the approach. As described in the introduction, some scholars continue to question the public value of hot spots policing. Policing strategies focused on specific locations have also been criticized as resulting in crime displacement (see Reppetto, 1976). More recently, academics have observed that crime prevention programs may result in the complete opposite of displacement—that crime control benefits were greater than expected and “spill over” into places beyond the target areas (Clarke & Weisburd, 1994).

Methods

Our examination of the effects of hot spots policing strategies on crime used meta-analytic methods and followed the systematic review protocols and conventions of the Campbell Collaboration.¹ Meta-analysis is a method of systematic reviewing and was designed to synthesize empirical relationships across studies, such as the effects of a specific crime prevention intervention on criminal offending behavior (Wilson, 2001). Meta-analysis uses specialized statistical methods to analyze the relationships between findings and study features (Lipsey & Wilson, 2001; Wilson, 2001). The “effect size statistic” is the index used to represent the findings of each study in the overall meta-analysis of study findings and represents the strength and direction (positive or negative) of the relationship observed in a particular study (e.g. the size of the treatment effect found). The “mean effect size” represents the average effect of treatment on the outcome of interest across all eligible studies in a particular area, and is estimated by calculating a mean that is weighted by the precision of the effect size for each individual study.

Criteria for Inclusion and Exclusion of Studies in the Review

To be eligible for this review, interventions used to control crime hot spots were limited to police-led crime control efforts. Suitable police crime control efforts included traditional tactics such as directed patrol and heightened levels of traffic enforcement as well as alternative strategies such as problem-oriented policing (Goldstein, 1990). The units of analysis considered in this review were crime hot spots or high-activity crime “places.” As Eck (1997, p. 7-1) suggests,

1. www.campbellcollaboration.org.

a place is a very small area reserved for a narrow range of functions, often controlled by a single owner, and separated from the surrounding area ... examples of places include stores, homes, apartment buildings, street corners, subway stations, and airports.

However, this review does include evaluation designs that compare changes at larger areal units, such as police beats or census tracts, if the implemented hot spots policing program was clearly focused at specific places within the larger areal unit. For instance, the Kansas City Gun Project quasi-experiment evaluated the effects of increased gun seizures focused at gun hot spots within an 8 by 10 block police beat on gun crime relative to traditional policing services in comparison police beats (Sherman & Rogan, 1995a).

In eligible studies, crime places that received the hot spots policing intervention were compared to places that experienced routine levels of traditional police service (i.e. regular levels of patrol, ad hoc investigations, etc.). The comparison group study had to be either experimental or quasi-experimental (nonrandomized) (Campbell & Stanley, 1966; Cook & Campbell, 1979). Eligible studies had to measure the effects of police intervention on officially recorded levels of crime at places such as incident reports, citizen emergency calls for service, and arrest data. The review also examined crime displacement and diffusion of crime control benefits reported by the studies (Clarke & Weisburd, 1994; Reppetto, 1976).

Search Strategies for Identification of Studies

Several strategies were used to perform an exhaustive search for literature fitting the eligibility criteria. First, a keyword search² was performed on 15 online abstract databases.³ Second, the bibliographies of past narrative and empirical reviews of literature that examined the effectiveness of police crime control programs were reviewed (Braga, 2008; Eck & Maguire, 2000; Sherman, 1997, 2002; Skogan & Frydl, 2004; Weisburd & Eck, 2004). Third, forward

2. The following 11 search terms were used: hot spots AND police, crime place AND police, crime clusters AND police, crime displacement, place-oriented intervention AND crime, high crime areas AND police, high crime locations AND police, targeted policing, directed patrol, crackdowns, and enforcement swamping.

3. The following 15 databases were searched: Criminal Justice Periodical Index, Sociological Abstracts, Social Science Abstracts (SocialSciAbs), Social Science Citation Index, Arts and Humanities Search (AHSearch), Criminal Justice Abstracts, National Criminal Justice Reference Service Abstracts, Educational Resources Information Clearinghouse, Legal Resource Index, Dissertation Abstracts, Government Publications Office, Monthly Catalog, Google Scholar, Online Computer Library Center SearchFirst, CINCH data search, and C2 SPECTR (The Campbell Collaboration Social, Psychological, Educational and Criminological Trials Register).

4. These journals were: *Criminology*, *Criminology & Public Policy*, *Justice Quarterly*, *Journal of Research in Crime and Delinquency*, *Journal of Criminal Justice*, *Police Quarterly*, *Policing*, *Police Practice and Research*, *British Journal of Criminology*, *Journal of Quantitative Criminology*, *Crime & Delinquency*, *Journal of Criminal Law and Criminology*, and *Policing and Society*. Hand searches covered 1979-2010.

searches for works that cited seminal hot spots policing studies were performed (Braga et al., 1999; Sherman et al., 1989; Sherman & Rogan, 1995a; Sherman & Weisburd, 1995; Weisburd & Green, 1995). Fourth, bibliographies of past completed Campbell systematic reviews of police crime prevention efforts were searched (Bowers, Johnson, Guerette, Summers, & Poynton, 2011; Mazerolle, Soole, & Rombouts, 2007; Weisburd, Telep, Hinkle, & Eck, 2008). Fifth, hand searches of leading journals in the field were performed.⁴

The searches were all completed between October 2010 and January 2011. Thus, the review only covers studies completed in 2010 and earlier. Sixth, after finishing the above searches and reviewing the studies as described later, the list of studies meeting our eligibility criteria was emailed in June 2011 to leading criminology and criminal justice scholars knowledgeable in the area of hot spots policing strategies. These 83 scholars were defined as those who authored at least one study which appeared on our inclusion list, anyone involved with the National Academy of Sciences review of police research and other leading scholars (list available upon request from authors). This helped to identify studies the above searches left out as these experts were able to make referrals to studies that were missed, particularly unpublished studies. Finally, an information specialist was engaged at the outset of our review and at points along the way in order to ensure that appropriate search strategies were used to identify the studies meeting the criteria of this review.⁵

Statistical Procedures and Conventions

As mentioned earlier, meta-analyses were used to determine the size, direction, and statistical significance of the overall impact of focused deterrence strategies on crime by weighting program effect sizes based on the variance of the effect size and the study sample size (Lipsey & Wilson, 2001). We used the standardized mean difference effect size (also known as Cohen's *d*; see Cohen, 1988) and employed the Effect Size Calculator, developed by David B. Wilson and available on the Campbell Collaboration's website, to calculate standardized mean difference effect sizes for reported outcomes in each study. We then used Biostat's Comprehensive Meta Analysis Version 2.2 to conduct the meta-analysis of effect sizes.

One problem in conducting meta-analyses in crime and justice is that investigators often do not prioritize outcomes examined. This is common in studies in the social sciences in which authors view good practice as demanding that all relevant outcomes be reported. However, the lack of prioritization of outcomes in a study raises the question of how to derive an overall effect of treatment. For example, the reporting of one significant result may reflect a

5. Ms. Phyllis Schultze of the Gottfredson Library at the Rutgers University School of Criminal Justice executed the initial abstract search and was consulted throughout on our search strategies.

type of “creaming” in which the authors focus on one significant finding and ignore the less positive results of other outcomes. But authors commonly view the presentation of multiple findings as a method for identifying the specific contexts in which the treatment is effective. When the number of such comparisons is small and therefore unlikely to affect the error rates for specific comparisons such an approach is often valid.

We analyzed the studies using three approaches. The first combines all reported outcomes reported into an overall average effect size statistic. The second represents the largest effect reported in the studies and gives an upper bound to our findings. It is important to note that in some of the studies with more than one outcome reported, the largest outcome reflected what authors thought would be the most direct program effect. Finally, we present the smallest effect size for each study. This approach is the most conservative and likely underestimates the effect of hot spots policing on crime. We use it here primarily to provide a lower bound to our findings.

Results

Search strategies in the systematic review process generate a large number of citations and abstracts for potentially relevant studies that must be closely screened to determine whether the studies meet the eligibility criteria (Farrington & Petrosino, 2001). The screening process yields a much smaller pool of eligible studies for inclusion in the review. The search strategies produced 4,315 distinct abstracts. The contents of these abstracts were reviewed for any suggestion of an experimental or quasi-experimental evaluation of hot spots policing interventions. One hundred and thirty-one distinct abstracts were selected for closer review and the full-text reports, journal articles, and books for these abstracts were acquired and carefully assessed to determine whether the study met the eligibility criteria. As compared to only nine studies in the original review (Braga, 2001), 19 eligible studies were identified and included in the updated review.

- (1) Minneapolis Repeat Call Address Policing (RECAP) Program (Sherman et al., 1989).
- (2) New York Tactical Narcotics Teams (Sviridoff, Sadd, Curtis, & Grinc, 1992).
- (3) St. Louis Problem-Oriented Policing in three Drug Market Locations Study (Hope, 1994).
- (4) Minneapolis Hot Spots Patrol Program (Sherman & Weisburd, 1995).
- (5) Jersey City Drug Markets Analysis Program (DMAP) (Weisburd & Green, 1995).
- (6) Kansas City Gun Project (Sherman & Rogan, 1995a).
- (7) Kansas City Crack House Police Raids Program (Sherman & Rogan, 1995b).

- (8) Beenleigh Calls for Service Project (Criminal Justice Commission, 1998).
- (9) Jersey City Problem-Oriented Policing at Violent Places Project (Braga et al., 1999).
- (10) Houston Targeted Beat Program (Caeti, 1999).
- (11) Oakland Beat Health Program (Mazerolle, Price, & Roehl, 2000).
- (12) Pittsburgh Police Raids at Nuisance Bars Program (Cohen, Gorr, & Singh, 2003).
- (13) Buenos Aires Police Presence after Terror Attack Study (DiTella & Schargrodsky, 2004).
- (14) Philadelphia Drug Corners Crackdowns Program (Lawton, Taylor, & Luongo, 2005).
- (15) Jersey City Displacement and Diffusion Study (Weisburd et al., 2006).

Table 1 Characteristics of eligible hot spots policing evaluations

	<i>N</i>	Percent
<i>Evaluation country, N = 19</i>		
USA	17	89.5
Argentina	1	5.3
Australia	1	5.3
<i>City population, N = 19</i>		
Small (< 200,000 residents)	2	10.6
Medium (200,000-500,000 residents)	10	52.6
Large (> 500,000 residents)	7	36.8
<i>Evaluation type, N = 19</i>		
Randomized controlled trial	10	52.6
Quasi-experimental design	9	47.4
<i>Publication type, N = 19</i>		
Peer-reviewed journal	14	73.7
Unpublished report	3	15.8
Published report	2	10.5
<i>Intervention type, N = 25</i>		
Problem-oriented policing	13	52.0
Increased patrol (foot or car)	5	20.0
Drug enforcement operations	5	20.0
Increased gun searches and seizures	1	4.0
Zero-tolerance policing	1	4.0
<i>Displacement/diffusion measurement, N = 25</i>		
Did measure displacement/diffusion effects	17	68.0
Did not measure displacement/diffusion effects	8	32.0

- (16) Lowell Policing Crime and Disorder Hot Spots Project (Braga & Bond, 2008).
- (17) Jacksonville Policing Violent Crime Hot Spots Project (Taylor, Koper, & Woods, 2011).
- (18) Philadelphia Foot Patrol Program (Ratcliffe, Taniguchi, Groff, & Wood, 2011).
- (19) Boston Safe Street Teams Program (Braga, Hureau, & Papachristos, 2011).

Characteristics of Selected Studies

Table 1 presents the basic characteristics of the 19 eligible hot spots policing studies. Seventeen of the 19 (89.5%) identified studies were conducted in the USA. The Beenleigh Calls for Service Project evaluation was conducted in Australia, and an evaluation examining the crime control effects of increased police presence on blocks with Jewish centers after a Terrorist Attack was conducted in Buenos Aires, Argentina. Ten studies (52.6%) were completed in medium-sized cities with between 200,000 and 500,000 residents, seven studies (36.8%) were completed in large cities with more than 500,000 residents, and two studies (10.5%) were completed in smaller cities with less than 200,000 residents. Four cities were the research sites for multiple hot spots policing evaluations. Jersey City (NJ) was the site for three studies; while Minneapolis (MN), Kansas City (MO), and Philadelphia (PA) were the sites for two studies each. Fourteen of the eligible hot spots policing studies were published in peer-reviewed journals (73.7%), three were available as unpublished reports (15.8%), and two were available as published reports (10.5%).

Ten eligible studies used randomized controlled trials (52.6%) and nine eligible studies used quasi-experimental research designs (47.4%) to evaluate the effects of hot spots policing on crime. Five of the 19 eligible studies evaluated more than one hot spots policing intervention. In sum, the 19 eligible studies provided 25 distinct experimental and quasi-experimental tests of hot spots policing on crime. The Minneapolis RECAP experiment separately evaluated problem-oriented policing interventions at residential and commercial addresses. The Vera Institute of Justice separately evaluated the Tactical Narcotics Team intervention at hot spots areas via quasi-experimental analyses in two separate New York Police Department precincts. The Houston Targeted Beat Program quasi-experimental evaluation separately tested the effects of problem-oriented policing, high-visibility patrol, and zero-tolerance policing on hot spots in targeted high-crime beats. The Jersey City Displacement and Diffusion study examined the impact of problem-oriented policing interventions on a prostitution hot spot and a drug crime hot spot in separate quasi-experiments. Finally, the Jacksonville Policing Violent Crime Hot Spots experiment separately tested the effects of direct-saturation patrol and problem-oriented policing on violent street crime.

Across the 25 tests in the 19 eligible hot spots policing studies, problem-oriented policing was the evaluated in 13 of the tests (52.0%). Increased patrol strategies and drug enforcement operations were evaluated in five tests (20.0%) each. Zero-tolerance policing was evaluated in one test in the Houston Targeted Beat Program quasi-experiment, and an intervention designed to increase gun searches and seizures was tested in the Kansas City Gun quasi-experimental evaluation. Seventeen of the 25 hot spots policing tests also included analyses to determine whether the hot spots policing intervention generated any immediate spatial crime displacement or diffusion of crime control benefits effects.

Only three of the 19 eligible hot spots policing studies (15.8%) considered whether the concentration of police enforcement efforts at particular places undermined police-community relations. The Kansas City gun quasi-experiment suggested that residents of areas that are subjected to hot spots policing welcome the concentration of police efforts in problem places (Shaw, 1995). The Lowell Policing Crime and Disorder Hot Spots experiment reported that community members in treated hot spot areas recognized the increased police presence and its desirable impacts on local disorder problems (Braga & Bond, 2009). The Jersey City Problem-Oriented Policing in Violent Places experiment also found that community members often perceived that the focused police attention improved disorder problems in the treatment hot spots without any negative impacts on their perceptions of the police (Braga, 1997).

A noteworthy majority of the hot spots policing evaluations concluded that hot spots policing programs generated significant crime control benefits in the treatment areas relative to the control areas (Table 2). Only five of the 25 tests of hot spots policing interventions did not report noteworthy crime control gains associated with the approach. These five tests were the Minneapolis RECAP treatment at commercial addresses, the New York Tactical Narcotics Team in the 70th Precinct, the Beenleigh Calls for Service Project, the Houston Targeted Beat Program's problem-oriented policing intervention, and the Jacksonville direct-saturation patrol intervention. To test the statistical significance of the observed distribution of positive crime reduction effects reported by the 25 tests, we used an application of the binomial distribution known as the sign test (Blalock, 1979). This simple test examines the probabilities of getting an observed proportion of successes from a population of equal proportions of successes and failures. Twenty of the 25 tests (80.0%) of hot spots policing interventions in the 19 eligible studies reported noteworthy crime control gains. According to the sign test, this result was statistically significant (exact binomial two tailed probability = .0041).

Meta-Analysis of the Effects of Hot Spots Policing on Crime

Our meta-analyses of the effects of hot spots policing programs on crime were limited to 16 of the 19 eligible studies. Two studies, the St. Louis Problem-Ori-

Table 2 Hot spots policing experiments and quasi-experiments

Study	Treatment	Research design	Crime outcomes
Minneapolis (MN) RECAP Sherman et al. (1989)	Problem-oriented policing interventions comprised of mostly traditional enforcement tactics with some situational responses One-year intervention period Integrity of treatment threatened by large caseloads that outstripped the resources the RECAP unit could bring to bear	Randomized controlled trial; control and treatment groups were each randomly allocated 125 commercial and 125 residential addresses Differences in the number of calls to each address from a baseline year to the experimental year were compared between RECAP and control groups	No statistically significant differences in the prevalence of citizen calls for service at commercial addresses Statistically significant 15% reduction in calls for service at residential address in the first six months that decline to 6% in the first full year
New York (NY) Tactical Narcotics Teams Sviridoff et al. (1992)	Undercover and plainclothes police crack-down on street drug markets primarily using "buy and bust" operations Ninety-day intervention period Treatment in 67th precinct was limited by diminished manpower resources that resulted in fewer arrests and a shortened uniformed patrol maintenance presence	Quasi-experiment; targeted areas in 67th and 70th precincts were compared to similar areas in 71st precinct ARIMA time series analyses of assault, robbery, and burglary crime incident trends in treatment and comparison areas Thirty-six-month study time period that compared three-month intervention periods to nonintervention months	No statistically significant reductions in assault, robbery, and burglary incidents in the 70th precinct In the 67th precinct, there was a statistically significant reduction in assault incidents; no statistically significant reductions in robbery or burglary incidents
St. Louis (MO) POP in three Drug Areas Hope (1994)	Problem-oriented policing interventions comprised of mostly traditional enforcement tactics with some situational responses month intervention period No threats to the integrity of the treatment reported	Quasi-experiment; changes in citizen calls at hot spot addresses location were compared to changes in calls at other addresses on the block as well as other blocks in surrounding areas Simple trend analyses including 12-month pre and 6-month postintervention periods Compared trends in calls at targeted addresses to trends in calls at other addresses on same block to examine displacement effects	All three drug locations experienced varying reductions in total calls Regression analysis suggests that reductions on blocks where drug locations were located were greater than other blocks and intersections in surrounding areas Location 1- significant displacement into surrounding addresses Location 2- no displacement or diffusion Location 3- no displacement or diffusion

(Continued)

Table 2 (Continued)

Study	Treatment	Research design	Crime outcomes
Minneapolis (MN) Hot Spots Sherman and Weisburd (1995)	Uniformed police patrol; experimental group, on average, experienced twice as much patrol presence One-year intervention period Breakdown in the treatment noted during the summer months	Randomized controlled trial; control and treatment groups were each randomly allo- cated 55 hot spots within statistical blocks Differences of differences between citizen calls in baseline and experimental years, com- paring control and treatment groups	Modest, but statistically significant reduc- tions in total crime calls for service rang- ing from 6 to 13%
Jersey City (NJ) DWAP Weisburd and Green (1995)	Problem-oriented crackdowns followed by pre- ventive patrol to maintain crime control gains Fifteen-month intervention period Slow progress at treatment places caused intervention time period to be extended by three months	Randomized controlled trial; control and treat- ment groups were each randomly allocated 28 drug hot spots within statistical blocks Differences of differences between citizen calls during seven month pretest and posttest periods, comparing control and treatment groups Examined displacement and diffusion effects in two-block catchment areas surrounding the treatment and control drug places and repli- cated the drug market identification process	Statistically significant reductions in disor- der calls for service in treatment drug markets relative to control drug markets No change in violent and property crime calls Little evidence of displacement; analyses suggest modest diffusion of benefits for disorder

(Continued)

Table 2 (Continued)

Study	Treatment	Research design	Crime outcomes
Kansas City (MO) Gun Project Sherman and Rogan (1995a)	Intensive enforcement of laws against illegally carrying concealed firearms via safety frisks during traffic stops, plain view, and searches incident to arrest on other charges Twenty nine-week intervention period No threats to the integrity of the treatment reported; Two phases of patrols reported due to shifts in grant funding	Quasi-experiment; target beat matched to a control beat with nearly identical levels of drive-by shootings Difference of means comparing weekly gun crimes between intervention period and 29-week pretest period Time series analyses of weekly gun crimes for 52 week before-after period (ARIMA-effect of abrupt intervention in time series); Analysis of variance models with one extra pre and post year to examine changes in homicides and drive-by shootings for both patrol phases Displacement tests using pre/post difference in means and ARIMA time series analyses were conducted in seven contiguous beats	Sixty five percent increase in guns seized by the police; 49% decrease in gun crimes in treatment area Fifteen percent reduction in guns seized by the police; 4% increase in gun crimes in control area No significant displacement into specific beats; two beats showed significant reductions in gun crimes
Kansas City (MO) Crack House Raids Sherman and Rogan (1995b)	Court authorized raids on crack houses conducted by uniformed police officers Intervention period was the day of the raid All but seven cases received randomly assigned treatment as assigned No threats to the integrity of the treatment reported	Randomized controlled trial; Raids were randomly allocated to 104 blocks and were conducted at 98 of those sites; the other 103 blocks did not receive raids Differences of differences analytic design; pre-post time periods were 30 days before and after raid for experimental blocks, and 30 days before and after controlled buy at treatment block for control blocks	Modest decreases in citizen calls and offense reports that decayed in two weeks

(Continued)

Table 2 (Continued)

Study	Treatment	Research design	Crime outcomes
Houston (TX) Targeted Beat Program Caeti (1999)	Patrol initiative designed to reduce Index crimes in 7 beats. Three beats used "high visibility patrol" at hot spots; three beats used "zero tolerance" policing at hot spots; one beat used a problem-oriented policing approach to control hot spots Two-year intervention period Three "high visibility" patrol beats managed by one substation experienced police resistance to the program	Quasi-experiment; target beats were matched to noncontiguous comparison beats through cluster analysis and correlations of Census data Difference of means in reported crime were used to evaluate program effects for three-year preintervention and two-year intervention period Simple pre/post analyses of reported crimes in beats contiguous to treatment beats	Aggregated experimental beats experienced significant reductions in auto theft, total Part I Index crimes, and total Part I suppressible (robbery, burglary, auto theft) index crimes relative to aggregate control beats Three "zero tolerance" beats experienced mixed results; certain reported crimes decreased in particular beats; three "high visibility" beats experienced reductions in a wide variety of Index crimes; problem solving beat experienced no significant decrease relative to control beat No evidence of significant displacement; contiguous beats surrounding three target areas (problem-solving beat, two zero-tolerance beats) experienced possible diffusion of benefits in particular reported crimes
Oakland (CA) Beat Health Program Mazerolle et al. (2000)	Problem-oriented policing intervention that used civil remedies to alleviate drug and disorder problems at targeted properties 5.5-month intervention period No threats to the integrity of the treatment reported	Randomized controlled trial; control and treatment groups were each randomly allocated 50 street blocks within residential and commercial statistical blocks Differences of differences analytic design; pre-post time periods were 21.5 months before and 12 months after 5.5-month intervention period Examined displacement and diffusion effects in 500 foot radii catchment areas surrounding the treatment and control street blocks	Statistically significant reductions in drug calls in treatment blocks relative to control blocks; no statistically significant differences in other call types Analyses of catchment areas suggested an overall diffusion of crime control benefits for treatment catchment areas relative to control catchment areas

(Continued)

Table 2 (Continued)

Study	Treatment	Research design	Crime outcomes
Pittsburgh (PA) Police Raids at Nuisance Bars Cohen et al. (2003)	Raids by narcotics squad on nuisance bars to reduce drug selling in and around targeted bar Intervention period ranged from one month to five months per nuisance bar area with a mean of 3.7 raids per month during enforcement period No threats to the integrity of the treatment reported	Quasi-experiment; treatment nuisance bars were compared to nonequivalent nonnuisance bars located in the same neighborhood OLS and Tobit regression models estimated the impact of the intervention at treatment areas relative to comparison areas controlling for land-use and population-based risks Thirty six-month study time period with varying pretest and posttest periods for targeted bar areas	Statistically significant reductions in drug calls in treatment bar areas relative to control bar areas that largely disappeared when intervention ceased
Buenos Aires (ARG) Police Presence after Terrorist Attack DiTella and Schargrodsky (2004)	Increased police presence at Jewish centers in three neighborhoods Five-month intervention period No threats to the integrity of the treatment reported	Quasi-experiment; 37 police-protected blocks were compared with 839 other blocks Differences of differences analytic design; pre-post time periods were four months before and five months after police protection was implemented Examined displacement and diffusion effects in blocks that were one and two blocks away from treatment blocks	Statistically significant 75% reduction in motor vehicle thefts No evidence of immediate spatial displacement or diffusion
Philadelphia (PA) Drug Corners Crackdowns Lawton et al. (2005)	Police crackdown that stationed officers at high-activity drug locations Eighteen-week intervention period No threats to the integrity of the treatment reported	Quasi-experiment; targeted areas were matched to comparison areas based on spatial analyses of drug crimes and simple analyses of US Census data ARIMA time series analyses of drug crime incident and violent crime incident trends in treatment and comparison areas One hundred and thirty-nine-week study time period that compared 121 weeks pretreatment trends to 18 weeks treatment trends ARIMA analyses of 0.1 buffer areas surrounding targeted locations	Statistically significant reductions in violent crime incidents and drug crime incidents in treatment areas; no statistically significant changes in violent crime incidents and drug crime incidents in comparison areas Statistically significant reduction in violent crime incidents; mixed findings for drug crime incidents

(Continued)

Table 2 (Continued)

Study	Treatment	Research design	Crime outcomes
Jersey City (NJ) Displacement and Diffusion Study Weisburd, Wyckoff, Ready, Eck, Hinkle, and Gajewski (2006)	Problem-oriented policing interventions comprised of mostly traditional enforcement tactics with some situational responses Six-month intervention period Burglary hot spot dropped from study due to inadequate dosage of police intervention	Quasi-experiment; observed prostitution and drug event trends were examined over a nine-month period and adjusted for citywide disorder and drug call trends, respectively Difference of means tests compared pretest and posttest mean observed events Examined displacement and diffusion effects in one and two block catchment areas surrounding targeted locations	Statistically significant 45% reduction at the targeted prostitution location Statistically significant 58% reduction at the targeted drug crime location Analyses revealed significant diffusion of crime control benefits
Lowell Policing Crime and Disorder Hot Spots Project Braga and Bond (2008)	Problem-oriented policing interventions comprised of mostly disorder reduction tactics with some situational responses Twelve-month intervention period No threats to the integrity of the treatment reported	Randomized controlled trial; 34 places were matched into like pairs based on simple quantitative and qualitative analyses; control and treatment groups were each randomly allocated 17 places within matched pairs Differences of differences between a number of indicators during six-month pretest and posttest periods, comparing control and treatment groups Examined displacement and diffusion effects in two-block catchment areas surrounding the treatment and control violent places	Statistically significant reductions in total calls for service All crime categories experienced varying reductions; statistically significant reductions in street fight calls, property calls, narcotics calls, robbery incidents, and property crime incidents No evidence of immediate spatial displacement or diffusion

(Continued)

Table 2 (Continued)

Study	Treatment	Research design	Crime outcomes
Jacksonville (FL) Policing Violent Crime Hot Spots Program Taylor et al. (2011)	Two interventions tested: problem-oriented policing and direct-saturation patrol Ninety-day intervention period No threats to the integrity of the treatment reported	Randomized controlled trial; 83 places were randomly allocated in statistical blocks to problem-oriented treatment (22), direct-saturation patrol treatment (21), and control (40) conditions Differences of differences between a number of violent and property crime indicators during one-year pretest and 90-day posttest periods, comparing control and experimental groups Examined displacement and diffusion effects in 500 feet buffer zones surrounding the treatment and control violent places	Problem-oriented policing generated statistically significant 33% reduction in street violence Direct-saturation patrol did not generate any statistically significant reductions Evidence of immediate spatial displacement associated with problem-oriented policing intervention
Philadelphia (PA) Foot Patrol Program Ratcliffe et al. (2011)	Foot patrol in violent crime hot spots Twelve-week intervention period No threats to the integrity of the treatment reported	Randomized controlled trial; 120 places were matched into like pairs based on ranking of violent crime incident volume; control and treatment groups were each randomly allocated 60 places within matched pairs Differences of differences between a number of indicators during three-month pretest and intervention periods, comparing control and treatment groups Examined displacement and diffusion effects in buffer zones constructed by the research team	Statistically significant 23% reduction in street violent crime incidents Evidence of immediate spatial displacement associated with foot patrol; however, the net benefit of foot patrol in reducing violent crime exceeded the displacement effect

(Continued)

Table 2 (Continued)

Study	Treatment	Research design	Crime outcomes
Boston (MA)	Problem-oriented policing interventions comprised of disorder reduction initiatives and limited situational responses	Quasi-experiment; 564 comparison street units were matched via propensity scores to 478 treatment street units	Statistically significant 17% reduction in violent crime incidents
Safe Street Teams Program Braga et al. (2011)	Three-year intervention period No threats to the integrity of the treatment reported	Growth curve regression models were used to estimate intervention effects at treatment street units relative to comparison street units over 10-year time period Examined displacement and diffusion effects in two-block catchment areas surrounding the treatment and control street units	No evidence of immediate spatial displacement or diffusion

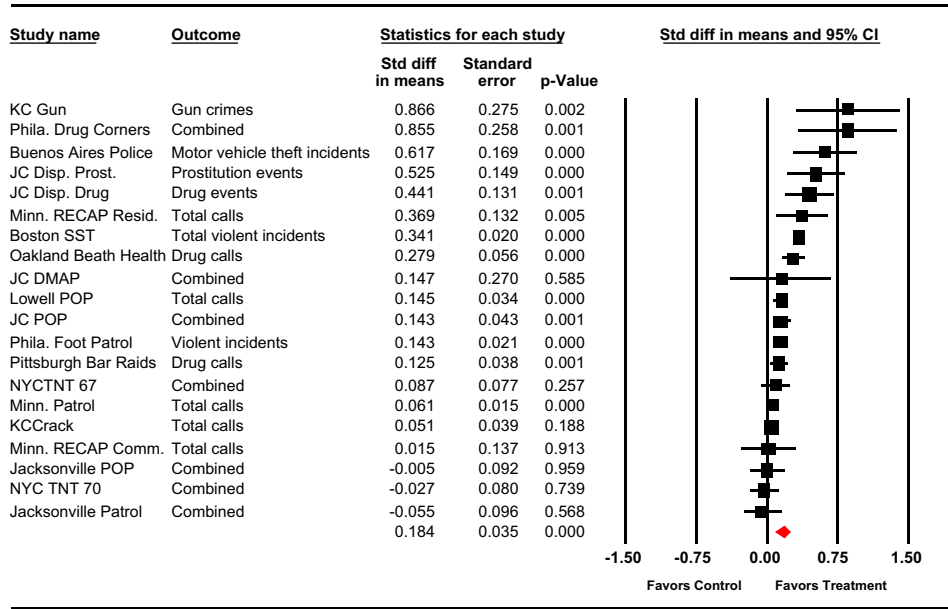


Figure 1 Combined effect sizes for study outcomes.

ented Policing in three Drug Market Locations Study and the Beenleigh Calls for Service Project, did not report the necessary information to calculate program effect sizes. The Houston Targeted Beat Program evaluation did not use appropriate statistical methods to estimate program effects and, unfortunately, accurate effect sizes could not be calculated (see discussion in Braga, 2001). We were able to calculate effect sizes for 20 main effects tests and 13 displacement and diffusion tests in these 16 eligible studies. The Braga (2005) meta-analysis only included five randomized controlled trials.

Using the mean effect criterion for 20 main effects tests, the forest plots in Figure 1 show the standardized difference in means between the treatment and control or comparison conditions (effect size) with a 95% confidence interval plotted around them for all tests. Points plotted to the right of zero indicate a treatment effect; in this case, the test showed a reduction in crime or disorder. Points to the left of zero indicate a backfire effect where control conditions improved relative to treatment conditions. Since the Q statistic was statistically significant ($Q = 184.021$, $df = 19$, $p < 0.000$), we used a random effects model to estimate the overall mean effect size based on a heterogeneous distribution of effect sizes. The meta-analysis of effect sizes suggests a statistically significant overall mean effect in favor of hot spots policing

6. Random effects models were used to estimate the overall standardized mean effect sizes. For the largest effect size meta-analysis, $Q = 217.994$, $df = 19$, $p < .000$. For the smallest effect size meta-analysis, $Q = 182.513$, $df = 19$, $p < .000$.

Table 3 Moderator analyses of study outcome types and hot spots policing program types

Crime category	N Studies	Effect size	95% CI
Violent crimes	12	.175*	.061, .289
Problem-oriented policing	7	.190*	.016, .396
Increased traditional policing	5	.157*	.014, .300
Property crimes	9	.084 ⁺	-.010, .178
Problem-oriented policing	4	.101*	.021, .181
Increased traditional policing	5	.087	-.067, .241
Drug offenses	5	.249*	.103, .395
Problem-oriented policing	3	.261*	.170, .352
Increased traditional policing	2	.139*	.065, .212
Disorder offenses	6	.151*	.052, .251
Problem-oriented policing	4	.331*	.101, .562
Increased traditional policing	2	.063*	.031, .096
Displacement/diffusion effects	13	.104*	.073, .136
Problem-oriented policing	8	.093*	.073, .113
Increased traditional policing	5	.106	-.210, .418

Note. Random effects meta-analysis models used in all reported effect sizes.

⁺ $p < .10$; * $p < .05$

strategies ($p < .001$). However, the overall mean effect size for these studies is .184; this would be considered a small mean effect size (see Cohen, 1988).

Seventeen tests reported effect sizes that favor treatment conditions over control conditions. The Kansas City Gun quasi-experiment (.866), Philadelphia Drug Corners Crackdown quasi-experiment (.855), and Buenos Aires Police Presence after Terror Attack quasi-experiment (.617) tests reported the largest statistically significant effect sizes, while the Minneapolis Hot Spots Patrol experiment (.061) reported the smallest statistically significant effect size. For the largest effect size meta-analysis, the overall standardized mean difference effect size was moderate (.278) and statistically significant at the $p < .05$ level.⁶ For the smallest effect size meta-analysis, the overall standardized mean difference effect size was small (.155) and statistically significant at the $p < .05$ level. Table 3 presents mean effect sizes for the effects of hot spots policing programs on violent crime, property crime, drug offense, and disorder offense outcomes. Hot spots policing programs produced statistically significant ($p < .05$) positive mean effect sizes for drug offense outcomes (.249), violent crime outcomes (.175), and disorder offense outcomes (.151). Hot spots policing programs also produced a positive but smaller mean effect size for property crime outcomes (.084) that was statistically significant at a less restrictive level ($p < .10$).

6. Random effects models were used to estimate the overall standardized mean effect sizes. For the largest effect size meta-analysis, $Q = 217.994$, $df = 19$, $p < .000$. For the smallest effect size meta-analysis, $Q = 182.513$, $df = 19$, $p < .000$.

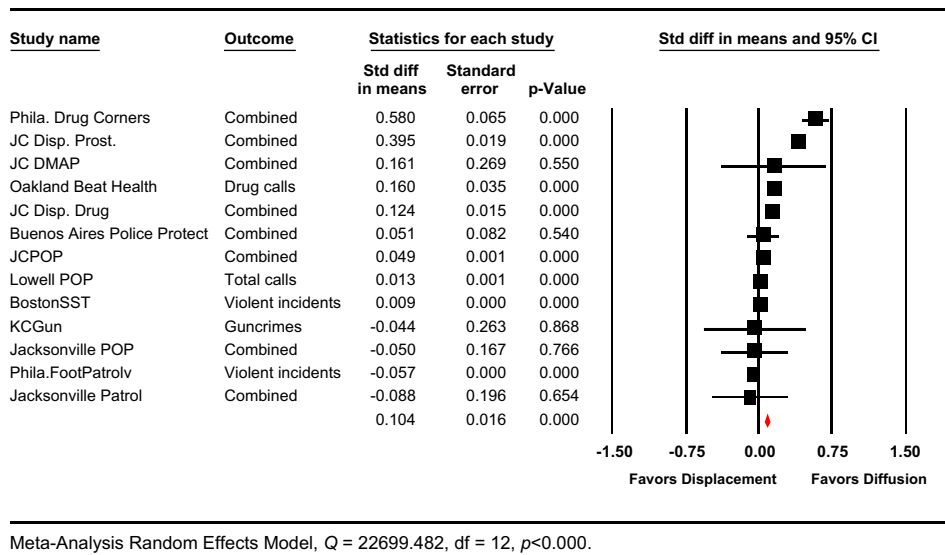


Figure 2 Combined effect sizes for displacement and diffusion outcomes.

Meta-Analysis of Displacement and Diffusion Effects

Seventeen of the 25 tests (68.0%) examined whether focused police efforts were associated with crime displacement or diffusion of crime control benefits (see Table 2). As described earlier, we were not able to calculate effect sizes for the St. Louis and Houston studies (which included three tests); this left us with 13 tests for our meta-analysis of displacement and diffusion effects. All 13 tests were limited to examining immediate spatial displacement and diffusion effects; that is, whether focused police efforts in targeted areas resulted in crime “moving around the corner” or whether these proximate areas experienced unintended crime control benefits. The original Campbell review did not use meta-analysis to examine spatial displacement and diffusion (see Braga, 2001, 2005).

Using the mean effect criterion for 13 displacement and diffusion tests, the forest plots in Figure 2 show the standardized difference in means between the treatment and control or comparison conditions (effect size) with a 95% confidence interval plotted around them for all tests. Points plotted to the right of zero indicate a diffusion of crime control benefits effect; in this case, the test showed a reduction in crime or disorder in the areas surrounding the targeted hot spots. Points to the left of zero indicate a crime displacement effect. Nine tests reported effect sizes that favor diffusion effects over displacement effects. The Philadelphia Drug Corners Crackdown quasi-experiment (.580), Jersey City Displacement and Diffusion Study quasi-experiments (buffers around prostitution site = .395, buffers around drug crime site = .124), Oakland Beat Health experiment (.160), Jersey City Problem-Oriented Policing

at Violent Places experiment (.049), Lowell Policing Crime and Disorder Hot Spots experiment (.013), and Boston Safe Street Teams quasi-experiment (.009) reported statistically significant diffusion effects. Four tests reported effect sizes that favor displacement effects over diffusion effects. Only the Philadelphia Foot Patrol experiment reported a statistically significant displacement effect (−.057). The meta-analysis suggests a small but statistically significant overall diffusion of crime control benefits effect (.104) generated by the hot spots policing strategies ($p < .001$).

Program Type and Research Design as Effect Size Moderators

Moderator variables help to explain and understand differences across studies in the outcomes observed. Program type and crime outcome type could be influential moderators of the observed effect sizes in our overall meta-analysis. Our narrative review documented that hot spots policing programs have adopted problem-oriented policing, focused drug enforcement, increased patrol, increased gun searches and seizures, and zero-tolerance policing to control high-activity crime places. These programs can be characterized as two fundamentally different types of approaches to control problem places. Problem-oriented policing programs represent police-led efforts to change the underlying conditions at hot spots that cause them to generate recurring crime problems (Goldstein, 1990). The other hot spots policing interventions repre-

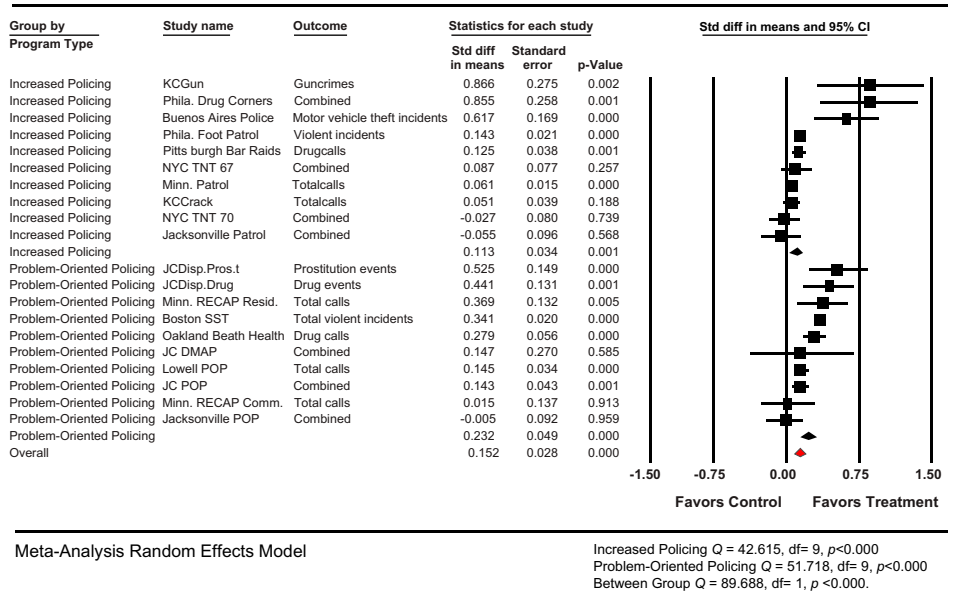


Figure 3 Hot spots program type as moderator of study outcomes.

sent increased traditional policing activities concentrated at specific places to prevent crime through general deterrence and increased risk of apprehension.

Figure 3 presents a random effects model examining the two different hot spots policing program types. Our meta-analysis revealed that problem-oriented policing programs produced a larger overall mean effect size (.232, $p < .000$) that was twice the size of the increased traditional policing overall mean effect size (.113, $p < .000$). Table 3 also compares the effects of problem-oriented policing programs relative to increased traditional policing programs for specific crime outcome types. It is important to note here that there are a relatively small number of studies in each of the police program type subcategories within the crime outcome categories; the small number of cases impacts the precision of the estimates and increases the widths of confidence intervals. As Table 3 reveals, the 95% confidence intervals overlap for these two distinct types of police interventions in the violent crime, property crime, and drug offense categories. This suggests that the mean effect sizes for the subcategories may not be dissimilar. Nevertheless, problem-oriented policing interventions generated larger mean effect size point estimates relative to increased policing interventions for all crime outcome categories. The most noteworthy differences were in the property crime category (increased policing did not generate a statistically significant mean effect size while problem-oriented policing did) and the disorder offense category (95% confidence intervals do not overlap).

Finally, we also examined the crime displacement and diffusion of crime control benefits effects reported in evaluations of these two general types of hot spots policing programs. Problem-oriented policing programs produced a small but statistically significant overall diffusion of benefits effect (.093, $p < .05$) in areas immediately surrounding the treatment hot spots relative to areas immediately surrounding the control hot spots. While increased policing programs also produced a small diffusion of benefits effect, it was not statistically significant.

Given the important distinction in methodological quality between the randomized controlled trials and quasi-experimental evaluation studies, we also examined research design as a moderator variable. We found that the nine quasi-experimental designs were associated with a much larger within-group effect size (.325, $p < .05$) relative to the 10 randomized controlled trial designs (.116, $p < .05$).⁷ While the biases in quasi-experimental research are not clear (see e.g. Wilkinson & Task Force on Statistical Inference, 1999), recent reviews in crime and justice suggest that weaker research designs often lead to more positive outcomes (e.g. see Weisburd, Lum, & Perosino, 2001; Welsh, Peel, Farrington, Elffers, & Braga, 2011). This does not mean that nonexperimental studies cannot be of high quality, but only that there is evidence that nonex-

7. We used a random effects model for this comparison. For the nine quasi-experiments, $Q = 64.257$, $df = 8$, $p < .000$. For the ten randomized controlled trials (with 11 tests), $Q = 33.581$, $df = 10$, $p < .000$. For the overall analysis, the Between Group $Q = 86.182$, $df = 1$, $p < .000$.

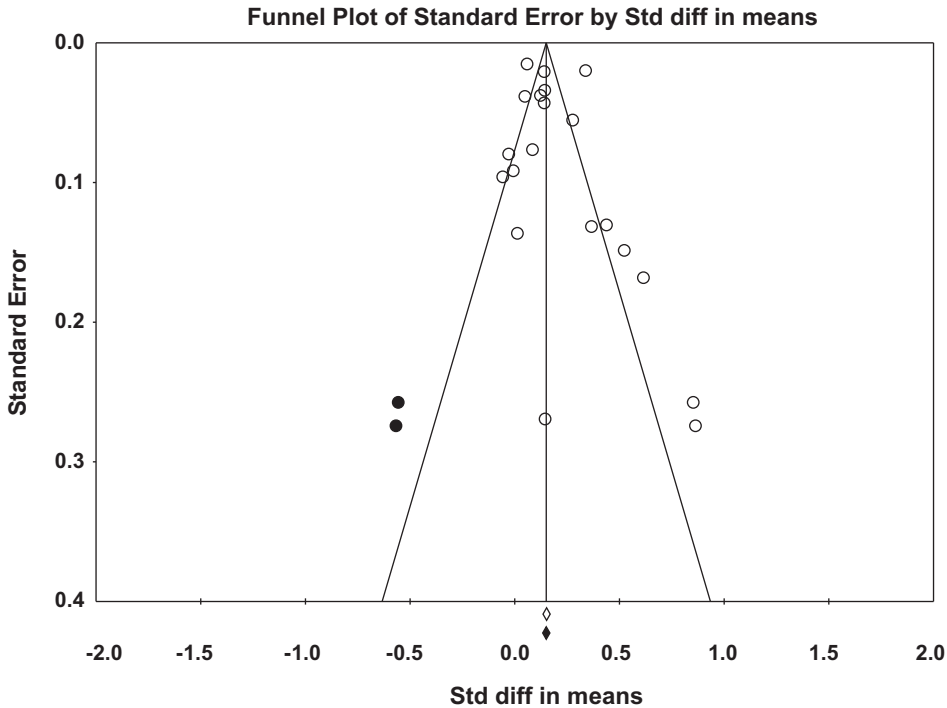


Figure 4 Funnel plot for all eligible studies with imputed studies from trim-and-fill analysis.

perimental designs in crime and justice are likely to overstate outcomes as contrasted with randomized experiments.

Publication Bias

Publication bias presents a strong challenge to any review of evaluation studies (Rothstein, 2008). Wilson (2009) has argued moreover that there is often little difference in methodological quality between published and unpublished studies suggesting the importance of searching the “grey literature.” Campbell reviews, such as ours, take a number of steps to reduce publication bias, as represented by the fact that three of the 19 eligible studies in our review came from unpublished sources. We used the trim-and-fill procedure (Duval & Tweedie, 2000) to estimate the effect of potential data censoring, such as publication bias, on the outcome of the meta-analyses. The diagnostic funnel plot is based on the idea that, in the absence of bias, the plot of study effect sizes should be symmetric about the mean effect size. If there is asymmetry, the trim-and-fill procedure imputes the missing studies, adds them to the analysis, and then recomputes the mean effect size.

A visual inspection of the resulting funnel plot indicated some asymmetry with more studies with a large effect to the right of the mean than the left of the mean. The trim-and-fill procedure determined that two studies should be added to create symmetry. The funnel plot with imputed studies is presented in Figure 4. These additional studies only slightly changed the mean effect size estimate. Using a random effects model, the mean random effect decreased from .184 (95% CI = .115, .252) to .164 (95% CI = .095, .233). Indeed, the 95% confidence intervals substantially overlap, suggesting that the mean effect sizes are likely to be the same and publication bias is not a problem for the findings presented here.

Discussion and Conclusion

More than a decade has passed since the first iteration of a Campbell Collaboration systematic review on the effects of hot spots policing on crime was published (Braga, 2001). The results of our updated systematic review and meta-analysis provide strong support for the basic conclusions of the original Campbell review: hot spots policing programs generate modest crime control gains and are likely to produce a diffusion of crime control benefits into areas immediately surrounding targeted high-activity crime places. The primary methodological contribution of this updated review is to solidify the science underpinning these observations by completing stronger meta-analyses of more than twice as many rigorous program evaluations. Our results also make a new and very important substantive contribution to crime control theory and practice by identifying problem-oriented policing as a preferable strategy for reducing crime in hot spot locations. Relative to simply increasing police visibility and making additional arrests in crime hot spots, problem-oriented interventions that attempted to alter place characteristics and dynamics produced larger crime prevention benefits.

The original Campbell review called for further research on community reactions to hot spots policing initiatives (Braga, 2001). Unfortunately, our updated systematic review revealed that only three evaluations considered the impacts of these police programs on community members as well as crime outcomes. In contrast to concerns that hot spots policing can easily become zero-tolerance and indiscriminate aggressive tactics can drive a wedge between the police and communities (Rosenbaum, 2006; Tonry, 2011), these three evaluations revealed the community members had positive opinions and experiences when subjected to hot spots policing initiatives. Moreover, in a recent randomized controlled trial explicitly designed to test the impacts of hot spots enforcement on community perceptions in three mid-sized California cities,⁸ Weisburd, Hinkle, Famega, and Ready (2011) did not find any evidence of "backfire effects" associated with a policing disorder intervention: the hot spots policing program

8. This study was not included in this systematic review, because it did not evaluate the efficacy of the hot spots policing program on an official crime outcome.

delivered in this study had no significant impacts on fear of crime, police legitimacy, collective efficacy, or perceptions of crime or social disorder.

We believe that further research on community reactions to hot spots policing program is still sorely needed. Only two of the four evaluations described above (Braga & Bond, 2009; Weisburd et al., 2011) represent new evaluations that were not included in the original Campbell review. It is important to note that these four evaluations interviewed or surveyed residents and business owners in hot spot areas and did not interview individuals arrested, detained, and/or interrogated as a result of these focused police actions. It is possible these individuals may have very different opinions and experiences when compared to community members who do not experience direct law enforcement actions. A recent evaluation of the adverse system side effects of Operation Sunrise, described here as the Philadelphia Drug Corners Crackdown, found that initiative strained the local judicial system by generating a high volume of arrests that resulted in a significant increase in fugitive defendants (Goldkamp & Vilcica, 2008). Short-term crime gains produced by particular types of hot spots policing initiatives could undermine the long-term stability of specific neighborhoods through the increased involvement of mostly low-income minority men in the criminal justice system.

The potential impacts of hot spots policing on police-community relations may depend in good part on the context of the hot spots affected and the types of strategies used. An increased enforcement program to control a repeat shoplifting problem in a shopping mall, for instance, may be welcomed by store owners and legitimate customers alike. However, police actions that seek to prevent crime by changing places, such as problem-oriented policing interventions, seem better positioned to generate both crime control gains and positive community perceptions of the police relative to simply increasing police presence and arresting large numbers of offenders. Whatever the impacts, we need to know more about the effects of hot spots policing approaches on the communities that the police serve. Future evaluations of hot spots policing programs must make understanding these complex police-community dynamics a high priority.

Finally, in closing, we were surprised that none of the 19 hot spots policing evaluations reviewed here conducted formal cost-benefit assessments. It is unfortunately rare for crime and justice program evaluations to include analyses of monetary costs of running the program relative to the benefits accrued by preventing crimes (Welsh & Farrington, 2000). In fact, the only time monetary costs were explicitly mentioned in any of the hot spots policing evaluations was to acknowledge that additional patrols in hot spot areas were supported by the police department's own overtime budget (e.g. Taylor, Koper, & Woods, 2011) or through external grant funds (e.g. Sherman & Rogan, 1995a). Many of the evaluations implied that the hot spots interventions were supported via reallocating existing resources into the treatment areas without incurring any additional costs. Nevertheless, the policy impact of this body of research would be considerably strengthened if evaluation demonstrated that

hot spots policing programs generated both crime control gains and monetary savings relative to traditional policing methods.

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